

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently amended) A lens system, comprising:

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a lens apparatus including a movable lens and a motor, one of a position and a moving rate of the movable lens being controlled with the motor;

a controller connected with the lens apparatus; and

a control part mounted in one of the lens apparatus and the controller,

wherein the lens system executes a control of the movable lens based on one of a control function provided in the lens apparatus and a control function provided in the controller,

wherein the control part obtains contents of a control of the movable lens based on the one of the control functions, and the control part executes the control of the movable lens based on the obtained contents of the control,

wherein the control function provided in the lens apparatus includes a view angle correction function which is an operation of moving a zoom lens to prevent a change of a view angle due to moving of a focus lens,

wherein the control function provided in the controller includes at least one of a shot function and a limit function,

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wherein the shot function is an operation of controlling the zoom from a current zoom setting to a preset zoom setting,
and

wherein the limit function is an operation of controlling zoom to restrict the zoom settings to a preset range.

2. (Currently amended) The lens system as defined in claim 1, wherein:

the control of the movable lens includes a control of a zoom lens;

~~the control function provided in the lens apparatus includes a view angle correction function; and~~

~~the control function provided in the controller includes at least one of a shot function and a limit function.~~

3. (Original) The lens system as defined in claim 2, wherein when the zoom lens moves to and stops at a shot position by the control based on the shot function, the control part

validates the control based on the view angle correction function.

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4. (Original) The lens system as defined in claim 2, wherein the control part executes the control based on the limit function prior to the view angle correction function in a case where the zoom lens moves to an outside of a limit position based on the limit function by executing the control based on the view angle correction function.

5. (Original) The lens system as defined in claim 1, wherein when the controls to be executed in the control part are overlapped at the same time, the control part selects one of the controls to execute in accordance with a predetermined selection process.

6. (Currently amended) The lens system as defined in claim 5, wherein:

the control of the movable lens includes a control of a zoom lens;

~~the control function provided in the lens apparatus
includes a view angle correction function; and~~

~~the control function provided in the controller includes at
least one of a shot function and a limit function.~~

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7. (Original) The lens system as defined in claim 6, wherein when the zoom lens moves to and stops at a shot position by the control based on the shot function, the control part validates the control based on the view angle correction function.

8. (Original) The lens system as defined in claim 6, wherein the control part executes the control based on the limit function prior to the view angle correction function in a case where the zoom lens moves to an outside of a limit position based on the limit function by executing the control based on the view angle correction function.

9. (Original) A lens apparatus, comprising:
a focus lens;
a zoom lens;

a controller; and

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a control part which executes a control for moving the zoom lens based on a control signal provided from the controller and executes a control based on a view angle correction function for moving the zoom lens to a position to prevent changing of a view angle due to moving of the focus lens,

wherein the controller obtains, from the control part, a position signal representing a position of the zoom lens,

wherein the control part obtains, from the controller, a control signal for moving the zoom lens to a target position set by the controller according to the position signal,

wherein the control part comprises a position signal fixing device which fixes, when executing the control based on the view angle correction function, a value of the position signal outputted from the control part to the controller to a value representing a position of the zoom lens before executing the control based on the view angle correction function.

10. (Original) The lens apparatus as defined in claim 9, wherein the position of the zoom lens before executing the control based on the view angle correction function is a

position where the zoom lens is stopped by the control based on the control signal provided from the controller.

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11. (Original) A lens apparatus, comprising:

a focus lens;

a zoom lens;

a controller; and

a control part which executes a control for moving the zoom lens based on a control signal provided from the controller and executes a control based on a view angle correction function for moving the zoom lens to a position to prevent changing of a view angle due to moving of the focus lens,

wherein the controller has a limit function for obtaining, from the control part, a position signal representing a position of the zoom lens and for restricting a moving range of the zoom lens so that the zoom lens does not move to an outside of a predetermined limit position based on the position signal,

wherein the control part comprises:

a limit position determining device which determines the limit position by changing a value of the position signal being outputted from the control part to the controller from a value

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representing an actual position of the zoom lens and detecting a change of the control signal outputted from the controller with respect to the changed value of the position signal; and

a restricting device which restricts a moving range of the zoom lens so that the zoom lens does not move to an outside of the limit position determined by the limit position determining device.

12. (Original) A lens apparatus, comprising:

a focus lens;

a zoom lens;

a controller; and

a control part which executes a control for moving the zoom lens based on a control signal provided from the controller and executes a control based on a view angle correction function for moving the zoom lens to a position to prevent changing of a view angle due to moving of the focus lens,

wherein the controller has a limit function for obtaining, from the control part, a position signal representing a position of the zoom lens and for restricting a moving range of the zoom lens so that the zoom lens does not move to an outside of a

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predetermined limit position based on the position signal, and
the controller has a shot function for stopping the zoom lens at
a predetermined shot position based on the position signal,

wherein the control part comprises:

a position signal fixing device which fixes, when executing
the control based on the view angle correction function by the
control part, a value of the position signal outputted from the
control part to the controller to a value representing a
position of the zoom lens before executing the control based on
the view angle correction function;

a limit position determining device which determines the
limit position by changing a value of the position signal being
outputted from the control part to the controller from a value
representing an actual position of the zoom lens and detecting a
change of the control signal outputted from the controller with
respect to the changed value of the position signal; and

a restricting device which restricts a moving range of the
zoom lens so that the zoom lens does not move to an outside of
the limit position determined by the limit position determining
device.

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13. (Original) The lens apparatus as defined in claim 12, wherein when the control signal provided from the controller changes by at least a predetermined value in a case where the position signal fixing device fixes the position signal, the control part executes a control for moving the zoom lens based on the control signal and the position signal fixing device returns the position signal to a value indicating an actual position of the zoom lens.

14. (New) A lens control system, comprising:

a zoom lens; and

a controller configured to control a movement of the zoom lens according to a priority of performing a view angle correction function and at least one of a limit function and a shot function,

wherein the view angle correction function is an operation of moving the zoom lens to prevent a change of a view angle due to moving of a focus lens,

wherein the shot function is an operation of controlling the movement of the zoom lens from a current position to a preset position, and

wherein the limit function is an operation of restricting the movement of the zoom lens to a preset range.

15. (New) The lens control system of claim 14,

wherein the controller is configured to perform the shot function prior to performing the view angle correction function when the shot function is activated, and

wherein the view angle correction function is performed based on the image of the object after performing the shot function.

16. (New) The lens control system of claim 15, wherein the controller is configured to control a zoom lens movement rate based on a difference between the preset position and the current position.

17. (New) The lens control system of claim 16, further comprising:

a zoom lens movement rate limit setting device configured to set a zoom lens movement rate limit,

wherein the controller is configured to control the zoom lens movement rate also based on the zoom lens movement rate limit.

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18. (New) The lens control system of claim 17, wherein the zoom lens movement rate limit setting device is configured to be manually settable.

19. (New) The lens control system of claim 14, wherein the controller is configured to restrict the movement of the zoom lens to the preset range when performing the view angle correction function when the limit function is activated.

20. (New) The lens control system of claim 14, wherein the controller is configured to restrict the movement of the zoom lens to the preset range when performing the shot function when the limit function is activated.

21. (New) The lens control system of claim 14, further comprising:

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a manual zoom device configured to respond to a manual zoom input and output a corresponding manual zoom control signal,

wherein the controller is configured to control the movement of the zoom lens in response to the manual zoom output signal.

22. (New) The lens control system of claim 21, wherein the controller is configured to restrict the movement of the zoom lens to the preset range when controlling the movement of the zoom lens in response to the manual zoom output signal when the limit function is activated.

23. (New) The lens control system of claim 21, wherein the manual zoom control signal includes a manual zoom rate signal, and

wherein the controller is configured to control a zoom lens movement rate based on the manual zoom rate signal.

24. (New) The lens control system of claim 23, further comprising:

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a zoom lens movement rate limit setting device configured to set a zoom lens movement rate limit,

wherein the controller is configured to control the zoom lens movement rate based on the zoom lens movement rate limit.

25. (New) The lens control system of claim 24, wherein the zoom lens movement rate limit setting device is configured to be manually settable.

26. (New) The lens control system of claim 14, further comprising a shot function setting device configured to set at least one preset position for the shot function.

27. (New) The lens control system of claim 26, wherein the at least one preset position is manually settable.

28. (New) The lens control system of claim 14, further comprising a limit function setting device configured to set at least one of a telephoto limit and a widephoto limit.

29. (New) The lens control system of claim 28, wherein the at least one of the telephoto limit and the widephoto limit is manually settable.

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30. (New) A method to control a lens control system, comprising:

controlling a movement of a zoom lens according to a priority of performing a view angle correction function and at least one of a limit function and a shot function,

wherein the view angle correction function is an operation of moving the zoom lens to prevent a change of a view angle due to moving of a focus lens,

wherein the shot function is an operation of controlling the movement of the zoom lens from a current position to a preset position, and

wherein the limit function is an operation of restricting the movement of the zoom lens to a preset range.

31. (New) The method of claim 30, further comprising:
determining whether the shot function is activated;

performing the shot function when the shot function is activated; and

performing the view angle correction function based on the image of the object after performing the shot function.

32. (New) The method of claim 31, further comprising controlling a zoom lens movement rate based on a difference between the preset position and the current position.

33. (New) The method of claim 32, further comprising:
determining a zoom lens movement rate limit; and
controlling the zoom lens movement rate also based on the zoom lens movement rate limit.

34. (New) The method of claim 33, wherein the step of determining the zoom lens movement rate limit comprises receiving the zoom lens movement rate limit based on a manual input.

35. (New) The method of claim 30, further comprising:
determining whether the limit function is activated; and

restricting the movement of the zoom lens to the preset range when performing the view angle correction function when the limit function is activated.

36. (New) The method of claim 30, further comprising:

determining whether the limit function is activated; and

restricting the movement of the zoom lens to the preset range when performing the shot function when the limit function is activated.

37. (New) The method of claim 30, further comprising:

determining whether a zoom control has been manually activated; and

controlling the movement of the zoom lens in response to the manual activation of the zoom control.

38. (New) The method of claim 37, further comprising:

determining whether the limit function is activated; and

restricting the movement of the zoom lens to the preset range when controlling the movement of the zoom lens in response

to the manual activation of the zoom control when the limit function is activated.

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39. (New) The method of claim 37, further comprising:
determining a manual zoom rate from the manual activation of the zoom control; and
controlling a zoom lens movement rate based on the manual zoom rate.

40. (New) The method of claim 39, further comprising:
determining a zoom lens movement rate limit; and
controlling the zoom lens movement rate based on the zoom lens movement rate limit.

41. (New) The method of claim 40, wherein the step of determining the zoom lens movement rate limit comprises receiving the zoom lens movement rate limit based on manual input.

42. (New) The method of claim 30, further comprising setting at least one preset position for the shot function.

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43. (New) The method of claim 42, wherein the step of setting the at least one preset position for the shot function comprises receiving the at least one preset position based on manual input.

44. (New) The method of claim 30, further comprising setting at least one of a telephoto limit and a widephoto limit.

45. (New) The method of claim 44, wherein the step of setting the at least one of the telephoto limit and the widephoto limit comprises receiving the at least one of the telephoto limit and the widephoto limit based on manual input.
